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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/841,265 | REYNAR, JEFF | |
| | Examiner | Art Unit | |
| | Lamont M. Spooner | 2626 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *15 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-12,14-25 and 27-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,14-25 and 27-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 April 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to all claims have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, in claim 1, lines 10-12 (within part of applicant's newly added limitation), “wherein the grammar defines an appropriate input for the input field, and wherein the schema in mark-up language schema the registry is associated with a corresponding grammar" is incomprehensive in intent, and distinct meaning.

In claim 20, line 10, (within the newly added limitation), “correspond grammar within the schema” renders the claim indefinite wherein there isn't a schema, or particular schema, or schema type, or schema name, or a

grammar within a schema. The Examiner is unsure of the intention of the claim, and applicant.

In claim 21, line 12, “sending the grammar” has rendered the claim indefinite with respect to the newly added limitations which discuss possible multiple grammars, wherein the grammar to be send could be the determined grammar associated with the mode bias schema, a generated grammar, or more generated grammars based on the input field, not determined, simply generated.

In claim 27, line 9 (the newly added limitation), “the grammar” renders the claim unclear and ambiguous, wherein the grammar may be a generated one or more grammars based on an input string, or a grammar that is an associated grammar, furthermore, line 7, "an associated grammar" does not clearly define to what the grammar is associated with, which could be anything, thus rendering the claim indefinite, and in combination with the former ambiguity, unclear.

In order to expedite prosecution, the examiner has interpreted the mark-up language schema to simply encompass a grammar associated therewith. Appropriate correction and clarification is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 1-3, 5, 8-12, 15-17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakita (US Patent No. 5,956,681) in view of Szabo (US 6,868,525), and further in view of Butler et al. (US 7,082,392), and further in view of Haley (US 6,950,831).

As per **claim 1**, Yamakita discloses a computer system for applying mode bias to an input field of an electronic document of an application, the system comprising:

a schema registry in communication with the application (Fig. 10-registration table, Fig. 1 item 108, C.16.lines 22-28-application, C.35.lines 62-64); and

an input engine in communication with the schema registry (Fig. 1 item 101-the mobile terminal comprising the input engine is connected to the schema registry, Fig. 10-the registration table, located within Fig. 1 item 108), wherein the schema registry receives a schema name from the application (C.5.lines 45-67-“destination number”, “text”, “e-mail”), locates a

grammar associated with the schema name and sends the grammar to the input engine (C.5.lines 55, 56-formatted text generation section determines acceptable grammar associated with the schema name, "destination number", which is sent to the input engine, C.6.lines 7-19, C.35.lines 62-64)

wherein the grammar defines an appropriate input for the input field, and wherein the schema registry is associated with a corresponding grammar by one of: referring to the grammar directly (C.5.lines 55, 56-formatted text generation section determines acceptable grammar associated with the schema name, "destination number" directly), but lacks explicitly teaching the schema registry as a hierarchical based schema registry, and a hierarchical analysis to the input field.

However, Szabo teaches having a hierarchical schema registry (C.21.lines 33-56) and hierarchical analysis to the input field (ibid, Fig. 1A). Therefore, at the time of the invention, it would have been obvious to modify Yamakita by having a hierarchical schema registry. The motivation for doing so would have been to provide an organization of query responses (C.21.lines 46, 47).

Yamakita with Szabo fail to explicitly disclose, a grammar having a language setting, a locale setting. However, Butler teaches a grammar

having a language setting, and a locale setting (C.7.lines 62-67). Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify Szabo with Yamakita's registry with a grammar having a language setting, and a locale setting, providing the benefit of having an entry text specific to a language and locale for use by a speech recognition and text field formatting entry (Butler, C.5 lines 50, 51, C.8 lines 7, 8).

The above combination lacks teaching the schema registry as a mark-up language schema registry. However, Haley teaches having a mark-up language schema registry (Fig. 4, his binding table, C.6-line 39-C.7 line 64-his data item as XSL). Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify the combination of Szabo and Butler, and Yamakita with Haley, providing the benefit of an document syntax registry, such as the well known XML registry, wherein XML (XSL, XQL) is a well known mark-up language which provides data structuring rules.

As per **claims 2, 3, and 5**, Yamakita, Szabo, Butler and Haley make obvious all of the limitations of claim 1, upon which claims 2, 3 and 5 depend. Yamakita further discloses:

the input engine is a speech recognition engine (C.1.lines 33-67).

the input engine is a handwriting recognition engine (ibid).

the input engine is keypad of a cellphone (ibid).

As per **claim 8**, Yamakita, Szabo, Butler and Haley make obvious all of the limitations of claim 1, upon which claim 8 depends. Yamakita further discloses:

the schema registry comprises a schema database (C.35.lines 12, 13-schema registry/database) and a grammar database (C.35.lines 23-31-the grammar database (format type field dictionary-acceptable input in units of format types), wherein the schema database comprises a plurality of schema names (Fig. 10- "format type" database-is interpreted as the schema database comprising a plurality of schema names "e-mail", "destination number", "text", C.35.lines 62-64), and a plurality of pointers to grammars (C.33.line 60-C.34.line 16, C.35.lines 25-31-format type registration table points to the format type field dictionary, which in turn searches the recognized data for field specific units corresponding and registered as a keyword for the field) associated with the plurality of schema names and wherein the pointers point to the grammar database comprising a plurality of grammars (C.35.lines 11-21-pointing/referencing to

format type field dictionary interpreted as the grammar database comprising a plurality of grammars).

The above combination lacks teaching the schema registry as a mark-up language schema registry. However, Haley teaches having a mark-up language schema registry (Fig. 4, his binding table, C.6-line 39-C.7 line 64-his data item as XSL). Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify the combination of Szabo and Butler, and Yamakita with Haley, providing the benefit of an document syntax registry, such as the well known XML registry, wherein XML (XSL, XQL) is a well known mark-up language which provides data structuring rules.

As per **claim 9**, Yamakita, Szabo, Butler and Haley make obvious all of the limitations of claim 1, upon which claim 9 depends. Yamakita further discloses:

the grammar is a context free grammar (C.33.lines 60-65-clause dependent grammar).

As per **claim 10**, Yamakita, Szabo, Butler and Haley make obvious all of the limitations of claim 1, upon which claim 10 depends. Yamakita further discloses:

the grammar is a context sensitive grammar (C.33.lines 66, 67, C.34.line 1).

As per **claim 11**, Yamakita, Szabo, Butler and Haley make obvious all of the limitations of claim 1, upon which claim 11 depends. Yamakita further discloses:

the grammar is a regular expression (C.35.lines 35, 36-regular expression grammar)

As per **claim 12**, Yamakita, Szabo, Butler and Haley make obvious all of the limitations of claim 1, upon which claim 12 depends. Yamakita further discloses:

the grammar is a statistical language model (C.33.lines 53-59).

As per **claim 15**, Yamakita, Szabo, Butler and Haley make obvious all of the limitations of claim 1, upon which claim 15 depends. Yamakita further discloses:

the input engine uses the grammar to receive input from a user of the application (C.36.lines 33-36-the input engine uses the grammar rule defining acceptable text to receive input, C.35.lines 35-37, from the user).

As per **claim 16**, Yamakita, Szabo, Butler and Haley make obvious all of the limitations of claim 15, upon which claim 16 depends. Yamakita further discloses:

the input engine further uses the grammar to bias the user's input toward a correct input for the input field (C.36.lines 1-36-correct input comprising and email address, biased by format and unnecessary word deletion).

As per **claim 17**, Yamakita, Szabo, Butler and Haley make obvious all of the limitations of claim 15, upon which claim 17 depends. Yamakita further discloses:

the input engine compares the input of the user (C.35.lines 35-37) to the grammar (C.35.lines 22-31, 43-51-comparative step) to determine whether the input matches and is an appropriate input (C.36.lines 20-36).

As per **claim 19**, Yamakita, Szabo, Butler and Haley make obvious all of the limitations of claim 1, upon which claim 19 depends. Yamakita further discloses:

the schema registry is in communication with the application through a text service framework (Fig. 1 item 108, 101-C.1.line 63-C.2.line 8-

stochastic input text interfaced with mobile terminal), but lacks the schema registry as a mark-up language schema registry.

The above combination lacks teaching the schema registry as a mark-up language schema registry. However, Haley teaches having a mark-up language schema registry (Fig. 4, his binding table, C.6-line 39-C.7 line 64-his data item as XSL). Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify the combination of Szabo and Butler, and Yamakita with Haley, providing the benefit of an document syntax registry, such as the well known XML registry, wherein XML (XSL, XQL) is a well known mark-up language which provides data structuring rules.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakita (US Patent No. 5,956,681) in view of Haley (US 6,950,831).

As per **claim 20**, Yamakita discloses a computer system for applying mode bias to an input field of an electronic document of an application, the system comprising:

a schema registry connected to the application (Fig. 10-registration table, Fig. 1 item 108, C.16.lines 22-28-application, C.35.lines 62-64), wherein the schema registry operable to point to code for dynamically

generating one or more grammars (C.35.lines 43-64-his format type field generation as for dynamically generating one or more grammars, and the format type is located in the schema registry-Fig. 10, which points to code for "E-mail", C.9.lines 49-53-his control program, and C.35.lines 62-64-his coping with various schema), wherein the one or more grammars are used to define an appropriate input for the input field, and wherein each schema in the registry is associated with a corresponding grammar by one of: referring to the corresponding grammar directly (C.5.lines 55, 56-formatted text generation section determines acceptable grammar associated with the schema name, "destination number" directly, Yamakita explicitly teaches wherein the one or more grammars are used to identify an input method-direct association, , C.10.lines 1-60, his determination processing, C.8.lines 13-15, and Fig. 4, the ranked list of mode bias schema, in order, from item 401, 405, 406, 407, 409, each is listed in order, all comprising mode bias schema, and non-concurrent, which comprises by inherent order, first, second, third, etc. interpreted as their ranking by order); and

an input engine in communication with the schema registry (Fig. 1 item 101-the mobile terminal comprising the input engine is connected to the schema registry, Fig. 10-the registration table, located within Fig. 1 item

108), wherein the schema registry receives a schema name from the application (C.5.lines 45-67-"destination number", "text", "e-mail"), locates an identifier of a grammar (C.36.lines 1-5) associated with the schema name and sends the identifier of the grammar to the input engine (C.5.lines 55, 56-formatted text generation section determines acceptable grammar associated with the schema name, "destination number", which is sent to the input engine, C.6.lines 7-19, C.35.lines 62-64, C.36.lines 30-36-the identifier of a grammar is sent to the input engine, in order for the text to be input in a predetermined text format),

Yamakita lacks teaching the schema registry as a mark-up language schema registry. However, Haley teaches having a mark-up language schema registry (Fig. 4, his binding table, C.6-line 39-C.7 line 64-his data item as XSL). Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify Yamakita with Haley, providing the benefit of an document syntax registry, such as the well known XML registry, wherein XML (XSL, XQL) is a well known mark-up language which provides data structuring rules.

7. Claims 4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakita in view of Szabo in view of Butler in view of

Haley (US 6,950,831), as applied to claim 1 above, and further in view of Fisher (US 2001/0041328)

As per **claims 4, 6, and 7**, Yamakita, Szabo, Butler and Haley make obvious all of the limitations of claim 1, upon which claims 4, 6, and 7 depend, but the above combination lack explicitly disclosing:

the input engine is an input method editor;

the input engine is gesture-based input method;

the input engine is a *sign language recognition engine;

However, Fisher teaches having an input method editor, gesture based input method, and a sign language recognition engine (p.3. [0036], [0039]- [0041]

Therefore, at the time of the invention, it would have been obvious to modify the combination of Szabo, Butler, Haley and Yamakita with multiple input engines, and recognition of these input methods. The motivation for doing so would have been to have multiple forms of input which would provide the obvious benefit of expanded input methods, for example to accommodate disabled persons.

8. Claims 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakita in view Szabo in view of Butler in view of Haley, as applied

to claim 1 above, and further in view of De La Huerga (US Patent No. 6,434,567).

Yamakita, Butler, Haley, Szabo and De La Huerga are analogous art in that they involve text input schema for structured text.

As per **claim 14**, Yamakita, Szabo, Butler and Haley make obvious all of the limitations of claim 1, upon which claim 14 depends but the above combination lacks the grammar defines an appropriate input for the input field by defining a list of acceptable inputs for the input field.

However, De La Huerga teaches having a grammar define an appropriate input for a field by defining a list of acceptable inputs for the input field (C.10.lines 7-17). Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify the combination of Szabo, Butler and Yamakita by including in a predetermined field grammar rule a list of acceptable inputs for the input field. The motivation for doing so would have been to account for various input patterns (De La Huerga, C.10.lines 15-17).

9. Claims 21, 22, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakita in view of Haley, and further in view of Szabo.

As per **claim 21**, Yamakita discloses a computer-implemented method for applying mode bias to an input field of an electronic document of an application program module, the method comprising the steps of:

determining that an insertion point is within the input field (C.36.lines 34, 35-inherent for insertion into an appropriate field);

determining a mode bias schema that is attached to the input field (C.35.lines 11-31-format type name registry, C.36.lines 20-36),

dynamically generating one or more grammars based on the input field and a schema registry wherein the one or more grammars define an appropriate input for the input field(C.35.lines 43-64-his format type field generation as for dynamically generating one or more grammars, and the format type is located in the schema registry-Fig. 10, which points to code for “E-mail”, C.9.lines 49-53-his control program, and C.35.lines 62-64-his coping with various schema, ibid, wherein the grammar defines input such as Email related input for the field, Fax, destination number, formats the text with respect to the field for the information to be entered as a form of grammar);

determining a grammar from the generated one or more grammars that is associated with the mode bias schema (C.35.lines 15-65-format type field dictionary, grammar rule determined by “email, fax, etc."); and

sending the grammar to an input engine wherein the input engine uses the grammar to receive input for the input field (C.5.lines 55, 56-formatted text generation section determines acceptable grammar associated with the schema name, “destination number”, which is sent to the input engine, C.6.lines 7-19, C.35.lines 62-64).

Yamakita lacks teaching the schema registry as a mark-up language schema registry. However, Haley teaches having a mark-up language schema registry (Fig. 4, his binding table, C.6-line 39-C.7 line 64-his data item as XSL). Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify Yamakita with Haley, providing the benefit of an document syntax registry, such as the well known XML registry, wherein XML (XSL, XQL) is a well known mark-up language which provides data structuring rules.

Yamakita and Haley lack teaching a ranked list of mode bias schemas.

However, Szabo teaches having a ranked list of mode bias schemas (his hierarchical schema registry, C.21.lines 33-56, Fig. 1A his input and hierarchy, wherein the ranking is interpreted as the node levels of the hierarchy). Therefore, at the time of the invention, it would have been obvious to modify Haley and Yamakita's mode bias with Szabo's ranked list of mode bias schemas for determining a mode bias schema providing an organization of query responses as per hierarchical mode bias (Szabo, C.21.lines 46, 47).

As per **claim 22**, Yamakita, Haley and Szabo make obvious all of the limitations of claim 21, upon which claim 22 depends. Yamakita further discloses:

receiving text at the insertion point (C.36.lines 20-36-predetermined field is the insertion point) and determining whether the received text (C.35.lines 32-47-received text) matches an input type defined by the grammar (C.36.lines 20-30-determination that the grammar matches an email grammar) and, if so, then displaying the text in the input field (C.36.lines 33-36, C.6.lines 16-18).

As per **claim 24**, Yamakita, Haley and Szabo make obvious all of the limitations of claim 21, upon which claim 24 depends. Yamakita further discloses:

cross-referencing the mode bias schema in a schema database to determine the grammar that is associated with the mode bias schema (C.35.line 11- C.36.line 5-searching through the mode bias schema for a grammar through the mode bias schema is interpreted as cross-referencing, C.35.lines 11-30, in the schema database indicates/points the/to grammar that is associated with the mode bias schema).

As per **claim 25**, Yamakita, Haley and Szabo make obvious all of the limitations of claim 24, upon which claim 25 depends. Yamakita further discloses:

sending the grammar to an input engine comprises retrieving the grammar from a grammar database (C.35.lines 21-31-grammar is retrieved from the format type dictionary grammar database) and sending the grammar to the input engine (C.36.lines 11-36).

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakita in view of Szabo, in view of Butler in view of Haley, as

applied to claim 1 above, and further in view of De La Huerga (US Patent No. 5,895,461).

Yamakita, Szabo, Butler, Haley and De La Huerga are analogous art in that they involve text input schema for structured text.

As per **claim 18**, Yamakita, Szabo, Haley and Butler make obvious all of the limitations of claim 17, upon which claim 18 depends. Yamakita further discloses if the input engine determines that the input of the user does not match an appropriate input, then the input engine rejects the input (C.35.lines 32-47, C.36.lines 6-36-for appropriate input, unnecessary words are deleted for appropriate input into fields), but the above combination lacks causing the application to display an error message to the user.

However, De La Huerga teaches display an error message to the user if an input does not match an appropriate input (C.6.lines 50-55).

Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify the combination of Haley, Szabo, Butler and Yamakita by indicated an error message for improper information entry. The motivation for doing so would have been to alert the user of error in an input for a specified format field (C.6.lines 51-55).

11. Claims 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakita in view of Haley, in view of Szabo, as applied to claim 21 above, and further in view of De La Huerga (US Patent No. 5,895,461).

As per **claim 23**, Yamakita, Haley and Szabo make obvious all of the limitations of claim 22, upon which claim 23 depends.

The above combination lacks if the text received at the insertion point does not match the input type defined by the grammar, then displaying an error message.

However, De La Huerga teaches display an error message to the user if an input does not match an appropriate input (C.6.lines 50-55). Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify the combination of Haley, Szabo and Yamakita with De La Huerga by indicated an error message for improper information entry. The motivation for doing so would have been to alert the user of error in an input for a specified format field (C.6.lines 51-55).

12. Claims 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakita in view of Bays et al. (hereinafter referred to as Bays, US Patent No. 6,519,603) in further view of Szabo, and further in view of Haley.

Yamakita, Bays, Haley and Szabo are analogous art in that they involve text input schema for structured text.

As per **claim 27**, Yamakita discloses a computer-implemented method for determining a semantic category of a string in an electronic document based upon a mode bias schema comprising:

receiving an input string in the electronic document (C.5.lines 45-50),

dynamically generating one or more grammars based on the input string wherein the one or more grammars define an appropriate input for the input field; (C.35.lines 43-64-his format type field generation as for dynamically generating one or more grammars, and the format type is located in the schema registry-Fig. 10, which points to code for "E-mail"-Email providing the proper grammar defining email input, C.35 lines 43-64, C.9.lines 49-53-his control program, and C.35.lines 62-64-his coping with various schema, C.35.lines 43, 45-upon receiving as the input string),

retrieving a mode bias schema and an associated grammar (C.5.lines 55, 56-formatted text generation section determines acceptable grammar associated with the schema name, "destination number", which is sent to the input engine, C.6.lines 7-19, C.35.lines 62-64), the mode bias schema associated with a schema registry wherein each schema in the registry is

associated with the grammar by one of: referring to the grammar directly( C.5.lines 55, 56-formatted text generation section determines acceptable grammar associated with the schema name, “destination number” directly, ibid-wherein his format and format type are located in the registry, Fig. 10);

determining whether the string conforms to the definition of input defined by the grammar (C.35.lines 22-31, 43-51-determining step, C.36.lines 20-36);

if so, then associating the mode bias schema with the input string in the document (C.35.lines 43-64);

but lacks disclosing saving the mode bias schema as a semantic category label in association with the input string.

However, Bays teaches saving a mode bias schema as a semantic category in association with a string (C.2.line 38-C.3.line 57, for further detail, see C.8.lines 20-25-which explicitly discusses the schema as it relates to the previous recited section involving the semantic category and annotations of data input by a user, and storing/saving thereof.) Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to Yamakita with Bays by storing a mode bias schema as a semantic category label in associating with a string. The motivation for

doing so would have been to enhance semantic interpretations as well as provide order/structure for uses to enter information (C.2.lines 47-50).

Yamkita and Bays lack teaching the schema registry as a mark up language schema registry. However, Haley teaches having a mark-up language schema registry (Fig. 4, his binding table, C.6-line 39-C.7 line 64-his data item as XSL). Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify the combination of Bays and Yamakita with Haley, providing the benefit of an document syntax registry, such as the well known XML registry, wherein XML (XSL, XQL) is a well known mark-up language which provides data structuring rules.

As per **claim 28**, Yamakita, Bays and Haley make obvious all of the limitations of claim 27, upon which claim 28 depends.

Bays also teaches displaying a plurality of actions in association with a semantic category label (C.3.lines 34-39-comment action, and URL action is displayed in association with every annotated semantic category label).

As per **claim 29**, Yamakita, Bays and Haley make obvious all of the limitations of claim 27, upon which claim 29 depends. Yamakita further discloses:

the mode bias schema and the associated grammar are retrieved from a schema registry (Fig. 10, C.35.lines 11-64-registry contains the mode bias schema, format type name, and associated grammar format type field dictionary).

As per **claim 30**, Yamakita, Bays, and Haley make obvious all of the limitations of claim 27, upon which claim 30 depends, but lack:

the mode bias schema comprises an XML schema.

However, Haley teaches having XML schema which represents a mode bias towards inputted information (C.6 line 57-C.7 line 58-his list of allowable values defined by XML). Therefore, at the time of the invention, it would have been obvious to one ordinarily skilled in the art to modify Bayes and Yamakita with Haley by using XML for schema definition. The motivation for doing so would have been to render appropriate text to users using XML, which is a computational less complex markup language than other encoding languages.

## *Conclusion*

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Strong (US 6,167,523) **teaches forms data validation and processing control**, using a markup language schema registry stored on a server (see Fig. 5 item 270), a grammar-wherein the grammar defines an appropriate input for the input field (Fig. 5 item 500), the program uses information stored in the registry to determine whether the input data from the form is valid, then turns the information over to a handler, a driver/processor for any recognition engine.
- Maes (US 7,216,351) teaches XML with form filling.
- Sharp (US 6,964,010) teaches data input constraint in form filling.
- Upton, IV (U 6,742,054) teaches structuring and naming control items using a well known markup language.
- Bahrs et al. (US 6,654,932) teaches validating user input, separate from a controller.
- Rennard (US 6,615,131) teaches wireless markup language (WML) with use in wireless information input.
- Thompson et al. (US 6,571,253) teaches XML for locally defining a document, with a data store of definitions for controls.

- Lewis (US 6,401,067) teaches allowing a user to select recognition modes via a user interface (mode bias).
- Heatherington et al. (US 6,339,755) teaches language and locale settings for an application.
- Gergic (Us 2003/0046316) teaches XML based form filling.
- Kang (US 6,741,994) teaches automatic organization of input data in to fields of a record.
- Beauregard et al. (US 5,974,413) teaches receiving an input string in an electronic document, dynamically generating one or more grammars, determining wherein the input string conforms to the definition of input defined by the grammar, a registry of action words, determining the semantic category of a string in an electronic document.
- Nakajima et al. (US 2006/0173674) teaches multiple input devices with handlers for each input device.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lamont M. Spooner whose telephone number is 571/272-7613. The examiner can normally be reached on 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on 571/272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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12/18/07

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